

## Status of Monitoring networks and programmes in the Mediterranean partner countries

### Palestine

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#### 1<sup>st</sup> section: Legal and institutional framework:

**Q.1.1** Please complete the table by indicating the ministry (ies) having, among its(their) responsibilities, the following subject matters:

#### Classification according to the various kinds of water

Water kinds			Responsible Ministry(ies)	Administration(s) and institution(s) in charge of monitoring quality
1. Coastal water				
2. Inland waters				
	2.1 Surface waters			
		2.1.1 Rivers		
		2.1.2 Dam-reservoirs		
		2.1.3 Wetlands		
	2.2 Groundwater		Palestinian Water Authority	Palestinian Water Authority

Classification according to the uses

Uses	Responsible Ministry(ies)	Administrations and institutions concerned
Bathing	Ministry of Health	Ministry of Health
Consumption (drinking water)	Ministry of Health	Water Service providers and Municipalities
Transportation (navigation)		
Agriculture (irrigation)	Palestinian Water Authority, Ministry of Agriculture	Ministry of Agriculture, NGOS. PWA, Research center
Energy (hydropower)		
Nature conservation	Environmental Quality Authority	

**Q.1.2** Are there entirely or partially privatized water sectors (water supply, waste water treatment,...)?

- No
- Yes
- Which ones? : *Jerusalem Water undertaking,*

**Q.1.4** Is integrated water resources management (IWRM) effective at the national, regional or local level?

- Yes (National only)

Since when? (2000)

How is it implemented?

*Drilling New Well, Water Harvesting Distribution the stress on the Aquifer*

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**Q.1.5** On what geographical entity basis (unit?) is water managed?

- River basin
- Administrative unit
- Other (specify)

Specify their number, their average surface area and on which depend these entities at the institutional level.

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.....

**Q.1.6** The WFD defines a water body as a section of a river, lake, coast which can be regarded as homogeneous, from the view point of natural characteristics and of the pressures exerted by human activities.

The WFD moreover specifies that all the rivers, whose catchment area is larger than 10 km<sup>2</sup>, must be broken up in water bodies. Is the river network subdivided or not in water bodies, within the WFD meaning?

- No
- Yes

Specify the number of defined water bodies:

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.....

**Q.1.7** Does the water legislation integrate commitments of results on the good qualitative status of rivers or water bodies?

- No
- Yes

**Q.1.8** Is there a legal regulatory framework which defines specific national standards for the discharge of pollutants and quality of the environment?

- Yes
- No

What are the applied standards?

*Palestinian Standards as well as Israeli standards, WHO and EPA standards*

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**Q.1.9** What are the past, current and future national and international programmes for monitoring water quality?

*Monitoring of water resources was carried out since 1967 for ground water resources for Chloride and Nitrate, since 1996 a monitoring for all water resources (domestic and agricultural wells and springs) took place for analyzing Major chemical anions and Cations, Microbiology (Total and Faecal Coliform) as well as field measurements. Twice a year (spring and Autumn)  
Ministry of Health monitor the consumer tap for total and Faecal contamination.*

*Currently, besides what mention above ... Municipalities monitor the distribution networks for total and Faecal, and chlorination*

## 2<sup>nd</sup> section: mechanisms and networks for monitoring (or controlling) water quality

**Q.2.1** Existing networks: please complete the following table (add columns for additional networks where necessary)

Identifying code	R1	R2	R3
Name of the network	Water Service provider	MOH	Palestinian Water Authority
Type of control <sup>(1)</sup>	<input type="checkbox"/> Survey (accidental pollution) <input type="checkbox"/> Monitoring (overall water status) <input type="checkbox"/> Operational control (pollution follow-up)	<input type="checkbox"/> Survey (accidental pollution) <input type="checkbox"/> Monitoring (overall water status) <input type="checkbox"/> Operational control (pollution follow-up)	<input type="checkbox"/> Survey (accidental pollution) <input type="checkbox"/> Monitoring (overall water status) <input type="checkbox"/> Operational control (pollution follow-up)
Type of water or discharge <sup>(2)</sup>	<input type="checkbox"/> Sea water <input type="checkbox"/> Inland surface water <input type="checkbox"/> Groundwater <input type="checkbox"/> Sediments <input type="checkbox"/> Discharges from WWTP <input type="checkbox"/> Industrial effluents <input type="checkbox"/> Water network and reservoirs	<input type="checkbox"/> Sea water <input type="checkbox"/> Inland surface water <input type="checkbox"/> Groundwater <input type="checkbox"/> Sediments <input type="checkbox"/> Discharges from WWTP <input type="checkbox"/> Industrial effluents <input type="checkbox"/> Consumer tap	<input type="checkbox"/> Sea water <input type="checkbox"/> Inland surface water <input type="checkbox"/> Groundwater <input type="checkbox"/> Sediments <input type="checkbox"/> Discharges from WWTP <input type="checkbox"/> Industrial effluents
Type of management <sup>(3)</sup>	<input type="checkbox"/> Public <input type="checkbox"/> Private	<input type="checkbox"/> Public <input type="checkbox"/> Private	<input type="checkbox"/> Public <input type="checkbox"/> Private
Manager's name			
Year of commissioning			
Cartography (GIS) <sup>(4)</sup>	no	no	no
No. of measurement stations/method <sup>(5)</sup>			
List of the monitored water bodies			
No. of measured parameters			
List of the biological parameters <sup>(6)</sup>	Total and Faecal Coliform	Total and faecal Coliform	Total and Faecal Coliform, HTPC, (amoeba, Giardia and others upon request)
List of the chemical and physico-chemical parameters	pH, EC, turbidity, residual chlorine	Nitrate & chloride (not routine analysis)	Major anions and cations, ph, EC, Turbidity
List of the hydro-morphological parameters <sup>(7)</sup>			
Standard procedures for measurement and processing <sup>(8)</sup>	<input type="checkbox"/> No <input type="checkbox"/> Specific to the organisation <input type="checkbox"/> National <input checked="" type="checkbox"/> International	<input type="checkbox"/> No <input type="checkbox"/> Specific to the organisation <input type="checkbox"/> National <input type="checkbox"/> International	<input type="checkbox"/> No <input type="checkbox"/> Specific to the organisation <input type="checkbox"/> National <input type="checkbox"/> International

- (1) While referring to the definitions of the WFD, please specify if it is rather an investigative monitoring network (accidental pollution), or a surveillance monitoring network (overall water status), or an operational monitoring network (pollution follow-up).
- (2) Specify whether it concerns groundwater, inland surface water, marine water, discharges or other.
- (3) Specify whether it is a public or private operator.
- (4) Cross out the useless mention(s). International reporting requires the geographical referencing of stations (referencing = availability of the geographical co-ordinates of the stations) and their integration into a GIS (yes or not).
- (5) A station means a measurement point precisely located and identified as such in a network. The measurement method can either be automatic (fixed measurement stations), or by hand (manual samplings and analyses).
- (6) Biological parameters: bacteriology, composition, abundance and biomass of the phytoplankton, aquatic flora, benthic invertebrate fauna, fish fauna ...
- (7) Hydro-morphological parameters: hydrological regime (water flow quantity and dynamics, residence time,...), morphological conditions (variations in depth and width, structure and substrate,...)...
- (8) Please indicate if data collection (measurements, selection and transport of the samples, analyses) is made using standard procedures or not and at which level they are defined.

**Q2.2** Monitored environments: please complete the table hereafter

Type of environment	Monitoring <sup>(1)</sup>	Coverage <sup>(2)</sup> in %	Network <sup>(3)</sup>	Use <sup>(4)</sup>
Groundwater	<input type="checkbox"/> Yes <input type="checkbox"/> No	95%	R3	Drinking, bathing, irrigation....
River	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Wetlands	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Lakes (natural and dam-reservoirs)	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Coastal water	<input type="checkbox"/> Yes <input type="checkbox"/> No			

- (1) Specify whether this type of environment is monitored or not.
- (2) Specify the percentage of the resource which is being monitored as compared to the total resource considered.
- (3) Use the identifying code (R1, R2...) mentioned in the Q.2.1 table.
- (4) Specify the water use(s): drinking water, bathing water, irrigation, energy, nature conservation, transport,...

**Q.2.3** What are the main constraints and stakes which led to the implementation of networks?

<i>Nature of the constraints and stakes</i>	<i>Network (identifying code)<sup>(1)</sup></i>
Resource scarcity	
Nature conservation (protected habitats)	
Public health	
Tourism	
Risk prevention (alarm)	
Transboundary conventions	
International conventions	
Others (specify)	

(1) Specify the network(s) which prioritizes the mentioned constraint or stake. The same network may be used for several constraints or stakes, in which case, it may be mentioned several times in the table.

**Q2.4** The WFD insists on the importance of establishing a link between the pressures exerted on the environment and the quality of the latter (pressure - impact relationship). This requires the availability of **inventories** (or land registers) for **urban and industrial discharges**, coming from **wastewater treatment plants**, and related to agriculture. Are there such inventories?

- Yes
- No

If yes, for which types of discharges and are they regularly updated, and are they mapped (GIS)?

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**3<sup>rd</sup> section: data processing and dissemination**

**Q3.1** Is there a centralised collection and information system?

- Yes
- No

If yes, specify how data are transferred? Teletransmission from the stations, computer file, manual data entry, other?

*data is stored in Excel sheet (manual entry), transfer the excel sheet to the data base.*

Who manages this centralised system?

*Data Bank department.....*

**Q3.2** Are collected data validated?

- Yes
- no

If yes, what are the methods used for validation?

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**Q3.3** Data storage/processing:

Under which (electronic, paper) formats are data stored?

- Paper
- Electronic

If databases are computerised, what are the software programs used?

*Ms-Access .....*

Are data integrated into a GIS?

- Yes
- No

What are the formats used for data storage (please provide the data structure separately, whenever possible)?

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Are data accessible on the Internet?

- Yes
- No

If yes, provide the address:

.....  
.....

**Q3.4** Data dissemination:

Are data disseminated?

- No
- Yes, specify:

To whom?	Dissemination method?	How is the dissemination implemented?	What is the frequency used for dissemination?	Is data dissemination following a particular agreement protocol?
Public	<input type="checkbox"/> Upon request <input type="checkbox"/> Free <input type="checkbox"/> Other (specify): .....	<input type="checkbox"/> Through the Internet, <input type="checkbox"/> Through publications (bulletins), <input type="checkbox"/> Through the medias <input type="checkbox"/> By computer file	<input type="checkbox"/> Monthly <input type="checkbox"/> Half-yearly <input type="checkbox"/> Yearly <input type="checkbox"/> Other (specify) ...upon request	<input type="checkbox"/> No <input type="checkbox"/> Yes, specify Special request
Politicians	<input type="checkbox"/> Upon request <input type="checkbox"/> Free <input type="checkbox"/> Other (specify): .....	<input type="checkbox"/> Through the Internet, <input type="checkbox"/> Through publications (bulletins), <input type="checkbox"/> Through the medias <input type="checkbox"/> By computer file	<input type="checkbox"/> Monthly <input type="checkbox"/> Half-yearly <input type="checkbox"/> Yearly <input type="checkbox"/> Other (specify) upon request	<input type="checkbox"/> No <input type="checkbox"/> Yes, specify Special request
Universities	<input type="checkbox"/> Upon request <input type="checkbox"/> Free <input type="checkbox"/> Other (specify): .....	<input type="checkbox"/> Through the Internet, <input type="checkbox"/> Through publications (bulletins), <input type="checkbox"/> Through the medias <input type="checkbox"/> By computer file	<input type="checkbox"/> Monthly <input type="checkbox"/> Half-yearly <input type="checkbox"/> Yearly <input type="checkbox"/> Other (specify) upon request	<input type="checkbox"/> No <input type="checkbox"/> Yes, specify Special request
Others (specify): Researchers and students	<input type="checkbox"/> Upon request <input type="checkbox"/> Free <input type="checkbox"/> Other (specify): .....	<input type="checkbox"/> Through the Internet, <input type="checkbox"/> Through publications (bulletins), <input type="checkbox"/> Through the medias <input type="checkbox"/> By computer file	<input type="checkbox"/> Monthly <input type="checkbox"/> Half-yearly <input type="checkbox"/> Yearly <input type="checkbox"/> Other (specify) upon request	<input type="checkbox"/> No <input type="checkbox"/> Yes, specify Special request



**Q3.5** Are data used for modelling or simulation?

- No
- Yes, specify:

What are the objectives?

*Special researches or studies... depending on the study objective*

What are the software programs used?

*Aquachem, Surfer for contour mapping, and Mt3D*

What are the organisations in charge of this modelling?

*NGOS, PWA, Universities, research centers*

**Q3.6** Are data used for reporting at the international level (conventions, agreements, etc.)?

- No
- Yes, specify:

Who takes care of this reporting?

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